UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte ERIN H. SIBLEY

Appeal 2007-2338[1]
Application 09/844,932
Technology Center 2600

Decided: December 10, 2007

Before JOSEPH F. RUGGIERO, JOSEPH L. DIXON, and
JOHN A. JEFFERY, *Administrative Patent Judges*.

JEFFERY, *Administrative Patent Judge*.

DECISION ON APPEAL

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[1] This appeal is related to Appeal Nos. 2006-2918 and 2007-1094. The issues decided in those appeals, however, are not germane to the issues before us in this appeal.

1 Appellant appeals under 35 U.S.C. § 134 from the Examiner's rejection of claims 1-15.[2] We have jurisdiction under 35 U.S.C. § 6(b). We affirm-in-part and enter a new ground of rejection under 37 C.F.R. § 41.50(b).

STATEMENT OF THE CASE

Appellant invented a device for receiving broadcast digital information that utilizes unused portions of over-the-air broadcasting signals. Specifically, a portable user appliance can receive a digital video stream embedded in a vertical blanking interval (VBI)[3] or excess bandwidth of a digital over-the-air broadcast signal. A VBI frame grabber receives the digital video stream which is then decompressed and displayed. Such a device uses otherwise unused portions of broadcasting signals.[4] Claim 1 is illustrative:

1. A portable user appliance for receiving a digital video stream embedded in a vertical blanking interval of a broadcast television signal comprising:

a television tuner for receiving the over-the-air broadcast signal;

a vertical blanking interval frame grabber for receiving the digital video stream;

a digital decompressor for decompressing said digital video stream into a decompressed video stream;

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[2] The Examiner withdrew a previous rejection under 35 U.S.C. § 112, first paragraph (Answer 2).

[3] The VBI is commonly broadcast after the scan line portion of a television signal. The VBI is essentially a pause before the next television signal with another set of scan lines and VBI is broadcast (Specification ¶ 0045).

[4] *See generally* Specification ¶¶ 0008-9.

a display displaying the decompressed video stream.

The Examiner relies on the following prior art references to show unpatentability:

Cho	US 5,760,848	Jun. 2, 1998
Rudolph	US 5,949,498	Sep. 7, 1999
Freeman	US 2002/0129374 A1	Sep. 12, 2002 (filed Jun. 17, 1999)
Leermakers	US 2003/0105845 A1	Jun. 5, 2003 (filed Oct. 29, 1999)
Yang	US 6,529,742 B1	Mar. 4, 2003 (filed Dec. 27, 1999)
Kim	US 6,556,248 B1	Apr. 29, 2003 (filed Jun. 10, 1998)
Shintani	US 6,661,472 B2	Dec. 9, 2003 (filed Sep. 27, 1999)

The following reference is cited in a new grounds of rejection under 37 C.F.R. § 41.50(b):

Allport	US 6,567,984 B1	May 20, 2003 (effectively filed Dec. 31, 1997)

1. Claims 7 and 15 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Shintani.
2. Claims 1 and 13 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Kim and Freeman.
3. Claims 2, 3, and 14 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Kim, Freeman, and Cho.
4. Claim 4 stands rejected under 35 U.S.C. § 103(a) as unpatentable over Kim, Freeman, Cho, and Rudolph.

5. Claim 5 stands rejected under 35 U.S.C. § 103(a) as unpatentable over Kim, Freeman, and Leermakers.
6. Claim 6 stands rejected under 35 U.S.C. § 103(a) as unpatentable over Kim, Freeman, and Yang.
7. Claims 8 and 9 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Shintani and Cho.
8. Claim 10 stands rejected under 35 U.S.C. § 103(a) as unpatentable over Shintani, Cho, and Rudolph.
9. Claim 11 stands rejected under 35 U.S.C. § 103(a) as unpatentable over Shintani, Cho, Rudolph, and Leermakers.
10. Claim 12 stands rejected under 35 U.S.C. § 103(a) as unpatentable over Shintani and Yang.

Rather than repeat the arguments of Appellant or the Examiner, we refer to the Briefs and the Answer for their respective details. In this decision, we have considered only those arguments actually made by Appellant. Arguments which Appellant could have made but did not make in the Briefs have not been considered and are deemed to be waived. *See* 37 C.F.R. § 41.37(c)(1)(vii).

OPINION

Independent Claims 7 and 15

We first consider the Examiner's rejection of claims 7 and 15 under 35 U.S.C. § 102(e) as being anticipated by Shintani. Anticipation is established only when a single prior art reference discloses, expressly or under the principles of inherency, each and every element of a claimed invention as well as disclosing structure which is capable of performing the

recited functional limitations. *RCA Corp. v. Applied Digital Data Systems, Inc.*, 730 F.2d 1440, 1444 (Fed. Cir. 1984); *W.L. Gore and Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540, 1554 (Fed. Cir. 1983).

The Examiner has indicated how the claimed invention is deemed to be fully met by the disclosure of Shintani (Answer 3-4). Although Appellant acknowledges that Shintani discloses "virtual channels," the reference does not teach or suggest providing the virtual channels in the *excess bandwidth* of an over-the-air digital broadcast television signal (Br. 8; Reply Br. 2). The Examiner maintains that in digital broadcast television systems, a single 6 MHz physical channel has "excess bandwidth" such that it can carry more than one digital stream or virtual channels.

We will sustain the Examiner's anticipation rejection. Shintani teaches that in digital broadcast television, a frequency band can carry a signal that is an encoded digital transport stream. When decoded, the transport stream can include one or more video streams that can be associated with a different channel number. Thus, a single physical channel can include multiple "virtual channels" (Shintani, col. 1, ll. 18-29).

In Shintani's system, when a virtual channel is desired, channel processing circuit 170 extracts video and audio information from the transport stream corresponding to the desired virtual channel (Shintani, col. 4, ll. 31-43; Fig. 1B).

In our view, the fact that a single frequency band can accommodate multiple virtual channels at least implicitly teaches that the bandwidth required for a given virtual channel is "excess" at least with respect to the bandwidth required by the other channels in the same band.

Moreover, Shintani teaches that the encoded transport stream associated with a given physical channel can be transmitted within an unrelated frequency band on a different physical channel (Shintani, col. 2, ll. 54-65). At a minimum, this bandwidth utilized for the transport stream is "excess" at least with respect to the bandwidth for the other channels.

For at least these reasons, we find Shintani discloses all limitations of independent claims 7 and 15. Accordingly, the Examiner's anticipation rejection of these claims is sustained.

Independent Claims 1 and 13

We now consider the Examiner's rejection of claims 1 and 13 under 35 U.S.C. § 103(a) as unpatentable over Kim and Freeman. In rejecting claims under 35 U.S.C. § 103, it is incumbent upon the Examiner to establish a factual basis to support the legal conclusion of obviousness. *See In re Fine*, 837 F.2d 1071, 1073 (Fed. Cir. 1988). In so doing, the Examiner must make the factual determinations set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 17 (1966).

Discussing the question of obviousness of a patent that claims a combination of known elements, *KSR Int'l v. Teleflex, Inc.*, 127 S. Ct. 1727, (2007) explains:

> When a work is available in one field of endeavor, design incentives and other market forces can prompt variations of it, either in the same field or a different one. If a person of ordinary skill can implement a predictable variation, § 103 likely bars its patentability. For the same reason, if a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill. *Sakraida* [*v. AG*

> *Pro, Inc.,* 425 U.S. 273 (1976)] and *Anderson's-Black Rock*[, *Inc. v. Pavement Salvage Co.*, 396 U.S. 57 (1969)] are illustrative—a court must ask whether the improvement is more than the predictable use of prior art elements according to their established functions.

KSR, 127 S. Ct. at 1740. If the claimed subject matter cannot be fairly characterized as involving the simple substitution of one known element for another or the mere application of a known technique to a piece of prior art ready for the improvement, a holding of obviousness can be based on a showing that "there was an apparent reason to combine the known elements in the fashion claimed." *Id.*, 127 S. Ct. at 1740-41. Such a showing requires "some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness. . . . [H]owever, the analysis need not seek out precise teachings directed to the specific subject matter of the challenged claim, for a court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ." *Id.*, 127 S. Ct. at 1741 (quoting *In re Kahn*, 441 F.3d 977, 987 (Fed. Cir. 2006)).

If the Examiner's burden is met, the burden then shifts to the Appellant to overcome the prima facie case with argument and/or evidence. Obviousness is then determined on the basis of the evidence as a whole and the relative persuasiveness of the arguments. *See In re Oetiker*, 977 F.2d 1443, 1445 (Fed. Cir. 1992).

Regarding independent claim 1, the Examiner's rejection essentially finds that Kim teaches a television receiver capable with every claimed feature except for a digital decompressor for decompressing the digital video stream. The Examiner cites Freeman as teaching this feature and concludes that it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system and HTML decoder of Kim to

decompress the compressed data to reduce data transfer requirements (Answer 4-5).

Appellant acknowledges that Kim teaches transmitting an HTML signal in a vertical blanking interval (VBI). Appellant emphasizes, however, that this HTML signal is "text code" -- not video. Appellant notes that, unlike Kim, the present invention inserts a *digital video stream* within the VBI. Thus, Appellant argues, Kim does not teach a VBI frame grabber for receiving a digital video stream. Appellant adds that although Freeman compresses a video signal as the Examiner indicates, Freeman does not decompress a digital video stream *from a VBI* (Br. 8-9; Reply Br. 2-3; emphasis added).

The Examiner contends that since Kim discloses transmitting HTML signals within the VBI, and Freeman teaches compressing and decompressing signals in a video system, the combination of references would suggest compressing and decompressing HTML data signals transmitted within the VBI (Answer 13).

We will not sustain the Examiner's rejection of independent claim 1. The cited prior art simply does not teach embedding a *digital video stream* in a VBI and receiving this embedded video stream with a VBI frame grabber as claimed. Although Kim embeds HTML data into the VBI of a TV broadcast signal as the Examiner indicates, this HTML data is generated as ASCII data which is converted "to an ASCII type of a teletext" (Kim, col. 1, ll. 57-61; col. 2, ll. 48-51).

Upon receipt of the broadcast signal, the TV decoder 103 not only demodulates the image intermediate frequency signal VIF, but it also converts the HTML signal to a *text code*. The TV decoder then sends this

HTML *text code* to HTML decoder 104 to restore the HTML image and audio data therefrom (Kim, col. 5, ll. 1-14; Fig. 3).

The clear import of this discussion is that the HTML data embedded in the VBI of Kim is not a digital video stream, but rather text data that, at best, merely represents image and audio data. Even if this HTML data is associated with a video stream, the *video stream itself* is not embedded in the VBI of Kim. Moreover, while Freeman teaches compressing and decompressing video signals, the reference does not cure the deficiencies noted above with respect to Kim.

For the foregoing reasons, we will not sustain the Examiner's rejection of independent claim 1. Likewise, we will not sustain the Examiner's rejection of independent claim 13 for similar reasons.

Regarding the obviousness rejections of dependent claims 2-6 and 14, the additional cited references do not cure the deficiencies noted above with respect to independent claims 1 and 13. Accordingly, the obviousness rejections of claims 2-6 and 14 are also not sustained.

Claims 8-12

Regarding the Examiner's rejections under 35 U.S.C. § 103(a) of (1) Claims 8 and 9 over Shintani and Cho; (2) Claim 10 over Shintani, Cho, and Rudolph; (3) Claim 11 over Shintani, Cho, Rudolph, and Leermakers; and (4) Claim 12 over Shintani and Yang, we conclude that the Examiner has established at least a prima facie case of obviousness of those claims that Appellant has not persuasively rebutted. Specifically, the Examiner has (1) pointed out the teachings of the cited references, (2) noted the perceived differences between the references and the claimed invention, and (3)

reasonably indicated how and why they would have been modified to arrive at the claimed invention (Answer 9-12). Once the Examiner has satisfied the burden of presenting a prima facie case of obviousness, the burden then shifts to Appellant to present evidence or arguments that persuasively rebut the Examiner's prima facie case. Appellant did not persuasively rebut the Examiner's prima facie case of obviousness, but merely noted that the additional references fails to cure the deficiencies of Shintani in connection with independent claims 7 and 15 (Br. 11-12). The rejection is therefore sustained.

NEW GROUND OF REJECTION UNDER 37 C.F.R. § 41.50(B)

Under 37 C.F.R. § 41.50(b), we enter a new ground of rejection under 35 U.S.C. § 103 for independent claims 1 and 13.

Claims 1 and 13 are rejected under 35 U.S.C. § 103(a) as unpatentable over Kim in view of Allport. Kim discloses a TV receiving apparatus that embeds HTML data into the VBI of a TV broadcast signal. This HTML data is generated as ASCII data which is converted "to an ASCII type of a teletext" (Kim, col. 1, ll. 57-61; col. 2, ll. 48-51).

Upon receipt of the broadcast signal, the TV decoder 103 not only demodulates the image intermediate frequency signal VIF, but it also converts the HTML signal to a text code. The TV decoder then sends this HTML text code to HTML decoder 104 to restore the HTML image and audio data therefrom (Kim, col. 5, ll. 1-14; Fig. 3).

Kim essentially discloses all of the claimed subject matter except for (1) embedding a digital video stream in the VBI and, (2) a digital decompressor for decompressing the video stream.

Allport teaches a system for viewing multiple data streams simultaneously. To this end, a base station receives first and second data streams. The two data streams are then transmitted to different display devices that are each capable of displaying motion video (Allport, Abstract; col. 16, ll. 34-48 (text of claim 1)). One display device is a handheld remote control device (Allport, col. 16, l. 49; col. 17, ll. 12-13; Fig. 1).

In one implementation, the first and second data streams are contained within a primary data stream prior to entering the base station. From this received primary data stream, the base station then extracts the first and second data streams (Allport, col. 16, ll. 62-67 (text of claim 4)). Allport further teaches that the primary data stream can comprise an analog signal having a VBI with data embedded within the VBI, *wherein the second data stream comprises data in the VBI* (Allport, col. 17, ll. 1-5 (text of claim 5) (emphasis added).

According to Allport, the term "data stream" not only may be HTML data from the Internet, but also "may be a '*media stream*' such as an analog or digital *TV broadcast signal*, satellite TV signal, cable TV signal, or other audio and/or *video* signal" (Allport, col. 1, ll. 20-26) (emphasis added). *See also* Allport, at col. 17, ll. 8-9 (further limiting the data within the VBI to be HTML data).

In view of these teachings, the skilled artisan would readily understand that the second data stream can be a digital video stream embedded within the VBI of the primary data stream – a data stream that can also be a TV broadcast signal.

In view of Allport, and further noting that Allport teaches embedding *either* HTML data *or* a video stream in the VBI, it would have been obvious

to one of ordinary skill in the art at the time of the invention to embed a digital video stream in the VBI in lieu of HTML data in Kim to efficiently transmit multiple video signals to the receiving apparatus.

Although Allport does not expressly disclose a digital decompressor for decompressing the digital video stream, the reference nevertheless strongly suggests that video compression and decompression techniques are utilized. In particular, Allport notes that digital data 85 and 95 or portions thereof may or may not pass through the MPEG A/V encoder 170 since data such as text will not necessarily require MPEG *compression* such as that required by video data (Allport, col. 13, ll. 26-30). Moreover, the remote control device includes an MPEG A/V decoder 285 which likewise suggests decompressing MPEG video signals that were compressed by the MPEG encoder 170. *See* Allport, at col. 15, ll. 17-20 and Figure 4.

OTHER ISSUES

Should further prosecution follow, the Examiner should also consider U.S. Patent 6,330,334 B1 (Ryan) (teaching compressing a digital audio stream and inserting it in the VBI of a TV signal).

DECISION

We have sustained the Examiner's rejections with respect to claims 7-12 and 15. We have not, however, sustained the Examiner's rejections of claims 1-6, 13, and 14. Also, we have entered a new ground of rejection under 37 C.F.R. § 41.50(b) for independent claims 1 and 13 under 35 U.S.C. § 103.[5]

[5] Although we decline to reject every claim under our discretionary authority under 37 C.F.R. 41.50(b), we emphasize that our decision does not mean the

Regarding the affirmed rejections, 37 C.F.R. § 41.52(a)(1) provides that "Appellant may file a single request for rehearing within two months from the date of the original decision of the Board."

This decision contains a new ground of rejection pursuant to 37 C.F.R. § 41.50(b), which (amended effective Sept. 13, 2004, by final rule notice 69 Fed. Reg. 49,960 (Aug. 12, 2004), 1286 Off. Gaz. Pat. Office 21 (Sept. 7, 2004)). 37 C.F.R. § 41.50(b) provides that "[a] new ground of rejection . . . shall not be considered final for judicial review."

37 C.F.R. § 41.50(b) also provides that the Appellants, WITHIN TWO MONTHS FROM THE DATE OF THE DECISION, must exercise one of the following two options with respect to the new ground of rejection to avoid termination of the appeal as to the rejected claims:

> (1) *Reopen prosecution.* Submit an appropriate amendment of the claims so rejected or new evidence relating to the claims so

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remaining claims are patentable. Rather, we merely leave the patentability determination of these claims to the Examiner. *See* MPEP § 1213.02.

For example, with regard to independent claims 7 and 15, Allport teaches that the primary data stream can be a TV broadcast signal comprising multiple channels. In this implementation, the first data stream is associated with the first channel, and the second data stream associated with the second channel (Allport, col. 17, ll. 22-30 (text of claim 11)). In our view, this teaching strongly suggests embedding the data streams (which can be video streams) in the "excess bandwidth" of the TV broadcast signal (i.e., the bandwidth (channels) allotted for the data streams).

Nevertheless, we need not reach a separate patentability decision of independent claims 7 and 15 based on Allport as we have affirmed the Examiner's anticipation rejection of those claims in this opinion.

> rejected, or both, and have the matter reconsidered by the examiner, in which event the proceeding will be remanded to the examiner. . . .
>
> (2) *Request rehearing*. Request that the proceeding be reheard under § 41.52 by the Board upon the same record. . . .

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED-IN-PART
37 C.F.R. § 41.50(b)

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